

## Abstract of the Invention

Methods and components are provided which ensure both the improved use of network resources and adequate performance of best effort (BE) traffic by intelligently distributing the BE traffic demands at connection level with corresponding scaling weights, and without reserving bandwidth. A weighted sum of the best effort (BE) class connections (or LSPs in MPLS context) in a link is used as a path selection criterion, where each BE connection is weighted by its service volume. Path selection for a requested BE service volume is performed by creating a virtual topology in which all links in a network have weighted BE metrics updated to include the effects of the requested BE service volume, and identifying a best path through the virtual topology taking into account the weighted BE metrics.